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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,554	07/30/2003	Paul D. Kartschoke	BUR920020037US1	1553

31647 7590 09/23/2004

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EXAMINER	
TON, MY TRANG	

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,554	KARTSCHOKE ET AL.	
	Examiner	Art Unit	
	My-Trang N. Ton	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7-9,15 and 20* is/are rejected.

7)☒ Claim(s) *2-6,10-14,16-19 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/30/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7-8, 15 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by the prior art depicted by Applicant's Fig. 1A.

The prior art, Fig. 1A discloses a cross-coupled inverter circuit including:

a first inverter circuit (102) including a first NFET (106) coupled to a first PFET (108), the first NFET (106) and the first PFET (108) each having a body and a drain; and

a second inverter circuit (104) cross-coupled with the first inverter circuit (102) at a plurality of nodes (A, B), the second inverter circuit (104) including a second NFET (110) coupled to a second PFET (112), the second NFET (110) and the second PFET (112) each having a body and a drain;

wherein the body of at least one of the first NFET (106), the second NFET (110), the first PFET (108) and the second PFET (112) is coupled so as to form a feedback path (feedback) that reduces discharging at one or more of the plurality of nodes (A, B) in response to a soft error event (114) at the cross-coupled inverter (100) as recited in claim 1.

Regarding claim 7:

the body of the first NFET (106) is coupled to the body of the second NFET (110, both body of 106 and 110 connected together at ground); and

the body of the first PFET (108) is coupled to the body of the second PFET (112, both body of 108 and 112 connected together at VDD).

Regarding claim 8: the first NFET (106), the second NFET (110), the first PFET (108) and the second PFET (112) each comprises a silicon-on-insulator metal-oxide-semiconductor field effect transistor.

The method recited in claim 15 is similarly rejected as claim 1.

The method recited in claim 20 is similarly rejected as claim 7.

Claims 1, 7-8, 15 and 20 are also rejected under 35 U.S.C. 102(b) as being anticipated by Houston et al (U.S Patent No. 6,037,808).

Houston et al disclose in Figs. 9-10 a differential SOI amplifiers including:

a first inverter circuit (T4, T13) including a first NFET (T4) coupled to a first PFET (T13), the first NFET (T4) and the first PFET (T13) each having a body and a drain; and

a second inverter circuit (T5, T14) cross-coupled with the first inverter circuit (T4, T13) at a plurality of nodes (nodes connected to DOUT and DOUT*), the second inverter circuit (T5, T14) including a second NFET (T5) coupled to a second PFET (T14), the second NFET (T5) and the second PFET (T14) each having a body and a drain;

wherein the body of at least one of the first NFET (T4), the second NFET (T5), the first PFET (T13) and the second PFET (T14) is coupled so as to form a feedback

path (feedback) that reduces discharging at one or more of the plurality of nodes (nodes connected to DOUT and DOUT*) in response to a soft error event at the cross-coupled inverter (the NFETs T4 and T5, PFETs T13 and T14 of Houston are capable of responding to the soft error event. **In re Tuominen, 213 USPQ 89 (CCPA 1982) & In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974))** as recited in claim 1.

Regarding claim 7:

the body of the first NFET (T4) is coupled to the body of the second NFET (T5) ; and

the body of the first PFET (T13) is coupled to the body of the second PFET (T14). See Figs. 9-10.

Regarding claim 8: the first NFET (T4), the second NFET (T5), the first PFET (T13) and the second PFET (T14) each comprises a silicon-on-insulator metal-oxide-semiconductor field effect transistor.

The method recited in claim 15 is similarly rejected as claim 1.

The method recited in claim 20 is similarly rejected as claim 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art depicted by Applicant's Fig. 1A as applied to claims 1 and 7 above.

As stated above, every element of the claimed invention recited in above claims can be seen in the circuit of the prior art, Fig. 1. However, the prior art does not specifically show "a triple-well metal oxide semiconductor field effect transistor" as recited in claim 9.

Nevertheless, such transistor is art recognized equivalents since no unobvious result is seen produce by using triple well metal oxide semiconductor field effect transistor over the transistors 106-112 of the prior art, Fig. 1A. Therefore, it would have been obvious at the time the invention was made for one skilled in the art to employ the triple well metal oxide semiconductor field effect transistors for transistors 106-112 in the prior art circuit with no unexpected result.

The same motivation applied to the prior art, Fig. 1A is applied to Houston et al.

Allowable Subject Matter

Claims 2-6, 10-14, 16-19 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Trang N. Ton whose telephone number is 571-272-1754. The examiner can normally be reached on 7:00 a.m - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MY-TRANG NU TON
PRIMARY EXAMINER

September 21, 2004